ACCESSION NR: AP4041869

Therefore, the nitrogen and titanium contents of the initial metal must be reduced to a minimum. This can be done, for example, by refining the metal in the ladle with synthetic slag. Electroslag melting of open-hearth steel refined with synthetic slag eliminated all the inclusions larger than 10μ and reduced the number of smaller inclusions by more than 50% and the nitrogen and oxygen contents to 0.0053 and 0.0020%, respectively. To produce ultra-high purity ball-bearing steel, the double electroslag melting was applied with a combination of various fluxes. The use of ANF-6-ANF-6 fluxes in double electroslag melting or of AN-29-ANF-6 fluxes produced best results.   Ultra-high purity steel, fully satisfying requirements for critical ball bearings, was obtained. Orig. art. has: 2 figures.

ASSOCIATION: Dneprospetsstal' (Dneprospetsstal' plant); Zaporozh-skiy mashinostroitel'ny*y institut (Zaporozh Machine-Building Insti-tute); Institut elektrosvarki im Ye. O. Patona (Electric Welding Institute); TsNIIChM

Card 2/3

ACCESSION NR: AP4041869

SUBMITTED: 00

SUB CODE: MM

ATD PRESS: 3068

NO REF SOV: 007

ENCL: 00

OTHER: 000

Card 3/3

GABUYEV, G.Kh.; YEL'TSOV, K.S.; SHUL'TE, Yu.A.; MIKHAYLOV, P.A.; GAREVSKIKH, I.A.;
LEYBENZON, S.A.; TSIVIRKO, E.I.; MEDOVAR, B.I.; LATASH, Yu.V.; FRANTSOV,
V.P.; PAKHOMOV, A.I.; KAGANOVSKIY, G.P.; VOINOV, S.G.; SHALIMOV, A.G.;
KALINNIKOV, Ye.S.; SMOLYAKOV, V.P.; KOSOY, L.F.

Improving the quality of electric-slag-refined bearing steel. Stal'
24 no.7:640-642 Jl '64.   (MIRA 18:1)

1. Zavod "Dneprospetsstal'", Zaporozhskiy mashinostroitel'nyy institut,
Institut elektrosvarki im. Ye.O.Patona i TSentral'nyy nauchno-issledo-
vatel'skiy institut chernoy metallurgii imeni I.P.Bardina.

KUKLIN, G.V.; BRYZGALOVA, Ye.A.; YEL'TSOV, L.M.

Observations of the partial lunar eclipse of November 29, 1955
at the Irkutsk Observatory. Astron.tsirk. no.168:19-21 '56.
(MIRA 9:8)

1. Irkutskaya gorodskaya astronomicheskaya observatoriya gosudar-
stvennogo universiteta imeni A.A. Zhdanova.
(Eclipses, Lunar--1955)

L 27254-66   EPF(n)-2/EWT(m)/EWP(t)   IJP(c)   WW/JD/JG

ACC NR: AP6009833   SOURCE CODE: UR/0413/66/000/004/0027/0028

AUTHOR: Kovalenko, A. M.; Murin, F. V.; Borodulin, G. M.; Yel'tsov, K. S.; 58
Smolyakov, V. F.   B

ORG: none

TITLE: Method for vacuum degassing of liquid metals with simultaneous treatment with slag. Class 18, No. 178843

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 27-28

TOPIC TAGS: metal, liquid metal, metal degassing, vacuum degassing

ABSTRACT: This Author Certificate presents a method for vacuum degassing and simultaneous refining of liquid metals by a slag treatment in a two-tube chamber. The metal is sucked into the chamber through one tube and, after vacuum degassing, is discharged through the other tube containing liquid slag which refines the metal.

SUB CODE: 11 / SUBM DATE: 05Sep64

Card 1/1   CC   UDC: 669.162.683-982

L 42922-66   EWT(m)/EWP(t)/ETI   IJP(c)   JD/JT

ACC NR: AP6029056   SOURCE CODE: UR/0413/66/000/014/0082/0082

INVENTOR: Averchenko, P. A.; Alekseyenko, M. F.; Babakov, A. A.; Babitskaya, A. N.;
Batrakov, V. P.; Bondarenko, A. L.; Gabuyev, G. Kh.; Yel'tsov, K. S.; Kulygin, G. V.;
Lola, V. N.; Orekhov, G. N.; Pridantsev, M. V.; Sklyarov, P. I.; Smolyakov, V. F.;
Soroko, L. N.; Solov'yev, L. L.; Frantsov, V. P.; Shamil', Yu. P.; Moshkevich, Ye. I.;
Natanov, B. S.

ORG: none

TITLE: Stainless steel. Class 40, No. 183947.

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 82

TOPIC TAGS: stainless steel, chromium titanium steel, molybdenum containing steel,
nitrogen containing steel, titanium containing steel

ABSTRACT: This Author Certificate introduces a stainless steel containing
chromium, molybdenum, and nitrogen. In order to improve weldability, the steel has
the following composition: 0.08% C, up to 0.8% Mr, up to 0.8% Si, 15—18% Cr,
0.2—0.6% Mo, 0.04—0.15 N, 0.4—1.2% Ti, up to 0.035 S, and up to 0.030 P.   [WW]

SUB CODE: 11/   SUBM DATE: 30Jan65/ ARS PRESS: SEIS

Card 1/1   UDC: 669.14.018.8: 669.15'26-194

YEL'TSOV, N.S. [El'tsau, N.S.]

Effect of cobalt and magnesium salts on the secretory function
and chemical composition of saliva in sheep. Vestsi AN BSSR.
Ser. biial. nav. no.4:67-73 '63.   (MIRA 17:8)

YEL'TSOV, N.S. [IAl'tsou, N.S.]

Effect of cobalt and manganese on the functioning of the gastric
glands in animals. Vestsi AN BSSR. Ser. biial. nav. no.2:97-101
'64.   (MIRA 17:11)

YEL'TSOV, S. G.

YEL'TSOV, S. G. (Professor, Moscow Zooveterinary Institute.) Post-narcotic acidosis in horses.

So: Veterinariya 23; (12); December 1946; incl.
TABCON

YEL'TSCV, S. G.

YEL'TSCV, S. G.   (Professor, Moscow Veterinary Institute).
Clarification of hemolytic action of chloral hydrate,
narcolene and hexenal solutions in horses.

Source: Veterinariya; 22; 6; June 1945 uncl
TAECON

EL'TSOV, S. G.*)

188T85

USSR/Medicine (Vet) - Blood Transfusion   Jun 51

"Significance of Hemoheteroagglutination in the Transfusion of Blood of Another Species," Prof S. G. El'tsov,* P. F. Sorokova, Aspirant, Moscow Vet Acad

"Veterinariya" Vol XXVIII, No 6, pp 50-54

In regard to agglutination, erythrocytes of cattle were found to be compatible in vitro with the serum of horses and dogs, erythrocytes of horses incompatible with serum of cattle or dogs. In actual transfusions, cattle blood compatible in regard to agglutination was well tolerated by horses, but not so well by dogs: 3-4 ml per 1 kg of wt already produced hemotransfusion shock.

LC   188T85

*Orig. Russian checked in another document shows S. G. Yal'tsov

YEL'TSOV, S.G., professor.

Problems of intrathoracic surgery in cattle. Veterinariia 30 no.1:
42-44 Ja '53.   (MLRA 6:1)

1. Moskovskaya veterinarnaya akademiya.

YEL'TSOV, S.S., doktor veterinarnykh nauk, professor.

Surgical treatment of reticulitis caused by injury in cattle.
Veterinariia 32 no.7:65-67 Jl '55.   (MIRA 8:9)

1.Kafedra operativnoy khirurgii i topograficheskoy anatomii MVA.
        (VETERINARY SURGERY) (STOMACH--SURGERY)

YEL'TSOV, Sergey Grigor'yeyich,prof.; ITKIN, B.Z., dots.; KHARCHENKO,
M.D., dots.; SOROKOVOY, P.F., kand. veterinarnykh nauk.; SOLOVEY,
A.S., red.; ZUBRILINA, Z.P., tekhn. red.

[Operative surgery with the principles of the topographical
anatomy of domestic animals] Moskva, Izd-vo sel'khoz. lit-ry,
1958. 375 p.   (MIRA 11:12)
                        (Veterinary surgery)

YERSHOV, V.S., prof., doktor veter.nauk; ZHURAVEL', A.A., prof., doktor
        veter.nauk; PREOBRAZHENSKIY, N.M., dotsent, kand.veter.nauk;
        YEL'TSOV, S.G., prof., doktor veter.nauk; ITKIN, B.Z., dotsent;
        NOSKOV, N.M., dotsent, kand.veter.nauk; YEMEL'YANOVA, N.I.,
        red.; BALLOD, A.I., tekhn.red.

[Principles of veterinary medicine] Osnovy veterinarii. Izd.2.,
ispr. i dop. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 437 p.
                                        (MIRA 13:10)
1. Direktor Vsesoyuznogo instituta gel'mintologii im. K.I.Skrya-
bina (for Yershov). 2. Zaveduyushchiy kafedroy fiziologii Lenin-
gradskogo veterinarnogo instituta (for Zhuravel'). 3. Moskovskaya
veterinarnaya akademiya (for Preobrazhenskiy). 4. Zaveduyushchiy
kafedroy operativnoy khirurgii Moskovskoy veterinarnoy akademii
(for Yel'tsov). 5. Zaveduyushchiy kafedroy epizootologii Oren-
burgskogo sel'skokhozyaystvennogo instituta (for Noskov).
                (Veterinary medicine)

YEL'TSOV, S.P.; KULIKOV, A.N., red.

[Safety regulations and industrial sanitation on
ships of the river fleet; power plants and machinery] Pra-
vila tekhniki bezopasnosti i proizvodstvennoi sanitarii
na sudakh rechnogo flota; silovye ustanovki i mekhanizmy.
Moskva, Izd-vo "Rechnoi transport," 1962. 90 p.
                                            (MIRA 17:8)
1. Russia (1917- R.S.F.S.R.) Ministerstvo rechnogo flota.

YEL'TSOV, S.P.; NOVIKOV, T.N.; ZAREZIN, I.V., red.

[Handbook on safety measures in the merchant marine;
general considerations] Spravochnik po okhrane truda
na morskom transporte; obshchie polozheniia. Moskva,
Transport, 1965. 466 p.   (MIRA 18:5)

PIROGOV, A.A.; RAKINA, V.P.; KRASS, Ya.R.; VOLKOV, N.V.; BELICHENKO, G.I.;
GALATOV, N.S.; NESTEROVA, A.L.; KORKOSHKO, N.M.; YEL'TSOV, V.V.

Dolomite magnesite blocks for lining oxygen-blown converters.
Ogneupory 30 no.9:4-5 '65.   (MIRA 18:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov
(for Pirogov, Rakina, Krass, Volkov, Belichenko).
2. Krivorozhskiy metallurgicheskiy zavod (for Galatov,
Nesterova, Korkoshko, Yel'tsov).

YEL'TSOV, V.A.

Utilization of Popov's operation in surgery of rectovatinal fistula and formation of artificial vagina. Akush. gin. no. 3:70-71 May-June 1952.   (CLML 22:5)

1. Of the Gynecological Division, Novosibirsk Ninth Municipal Hospital (Head Physician and Head of Division -- V. A. Yel'tsov).

YEL'TSOV, Ye.V., inzh.; BUGAYEV, P.S., inzh.

Vortex drying kilns. TSement 30 no.1:21 Ja-F '64.
(MIRA 17:8)

1. Yemanzhelinskiy tsementno-shifernyy kombinat.

PETROV, B.A., kand.tekhn.nauk; YURGANOV, N.N., kand.tekhn.nauk;
YEL'TSOV, Ye.V., inzh.; BOLDYSHEVA, N.I., inzh.; FRAYMAN, L.S.,
inzh.; SAFONOV, N.A., inzh.

Pneumatic method of feeding into a kiln beyond a continuous
curtain of dust caught by electric filters. TSement 30
no. 2:17-19 Mr-Ap '64.   (MIRA 17:5)

1. Vsesoyuznyy gosudarstvennyy nauchno-issledovatel'skiy i
proyektnyy institut tsementnoy promyshlennosti i Yemanzhelinskiy
tsementno-shifernyy kombinat.

YEL'TSOV-STRELKOV, V.I.

Spontaneous labor with a full-term fetus through a fistula of the uterine cervix. Akush. i gin. 33 no.6:87-88 N-D '57. (MIRA 11:3)

1. Iz akushersko-ginekologicheskoy kliniki (zav. kafedroy-prof. I.F.Zhordania) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i 5-go rodil'nogo doma Moskvy (glavnyy vrach A.F. TSyren')
        (LABOR, compl.
            through fistula of uterine cervix)
        (CERVIX, UTERINE, fistula
            in labor, passage of normal inf. through fistula)

YEL'TSOV-STRELKOV, V.I., Cand Med Sci -- (diss) "Maṭṇ

~Average obstetrical indicators of obstetric

institutions in Russia for the period from 1891

through 1917," Mos, 1958, 15 pp (Second Mos State

Med Inst im N.I. Pirogov) 200 copies (KL, 23-58, 111)

- 129 -

YEL'TSOV-STRELKOV, V.I.

Some obstetrical data from lying-in hospitals in Russia from 1891
to 1917 (from materials of published medical records). Sov.med.
22 no.1:144-148 Ja '58.   (MIRA 11:4)

1. Iz akushersko-ginekologicheskoy kliniki (zav. kafedroy - prof.
I.F.Zhordanina) lechebnogo fakul'teta II Moskovskogo meditsinskogo
instituta imeni N.I.Pirogova.
           (OBSTETRICS, hist.
              in Russia (Rus))

L 06563-67   EWP(m)/EWT(d)/EWT(1)   IJP(c)   WW

ACC NR: AP6029779   SOURCE CODE: UR/0294/44/004/004/0540/0551

AUTHOR: Buleyev, N. I. (Moscow); Yel'tsova, L. D. (Moscow); Biryukova, G. P. (Moscow)

ORG: None

53
B

TITLE: Calculating the temperature field of a turbulent fluid flow in the initial thermal section of a circular tube

TOPIC TAGS: turbulent flow, fluid flow, temperature distribution

ABSTRACT: The authors calculate the temperature fields in the initial thermal stabilization section during turbulent fluid flow in an infinitely extended circular tube. Longitudinal thermal overflows through the walls of the tube and through the liquid are considered in solving the problem. Temperature fields in the fluid flow and in the wall of the tube are calculated for a wide range of variation in the Reynolds and Prantdl numbers. The thermal flux $g(x)$ on the external surface of the tube is given assuming that the tube is heated from the outside in the middle section for a finite length of the order of 30 tube diameters. It is further assumed that the velocity field in the flow is stationary and that the physical properties of the fluid and thermal conductivity of the tube material are constant. The results of the calculations are given in a series of tables and graphs. Analysis indicates that the wall-fluid tem-

Card 1/2

UDC: 536.242.01

L 06563-67

ACC NR: AP6029779

perature drop in the heated section stabilizes with an accuracy of 5% within 16 diameters from the initial heating section. Longitudinal thermal overflow through the walls of the tube is insignificant for liquid metals and water but reaches considerable values for gas flow due to the higher values of the parameter λ_2/λ_1. The length of the initial thermal section in flows of various fluids increases with the Reynolds number from 0 to 3000 reaching a maximum at this point with a gradual decrease as Re is increased further. Orig. art. has: 8 figures, 4 tables, 24 formulas.

SUB CODE: 20/ SUBM DATE: 05Jan65/ ORIG REF: 008/ OTH REF: 004

Card 2/2

YEL'TSOVA, M.V.; CHEBOTAREV, A.I.

Quantitative determination of free amino acids in cheese by paper partition chromatography. Izv. vys. ucheb. zav.; pishch. tekh. no. 2:151-155 '58.   (MIRA 11:10)

1. Vologodskiy molochnyy institut. Kafedra tekhnologii moloka i molochnykh produktov.
                    (Cheese--Analysis)
                     (Amino acids)
                  (Paper chromatography)

YEL'TSOVA, M. V.

Cand Tech Sci - (diss) "Accumulation of taste and aromatic sub-
stances in the process of maturing cheese and the effect of these
on the product quality." Moscow, 1961. 16 pp ; with diagrams;
(Moscow Order of Labor Red Banner Inst of Economy imeni G. V.
Plekhanov); 170 copies; price not given; (KL, 7-61 sup, 236)

CHEMODANOV, D.I., dotsent; YEL'TSOVA, M.Ye., assistent

Acceleration of the autoclaving of lime-siliceous building materials by introducing sodium flouride into the silicate composition. Sbor. nauch. trud. TISI 8:113-117 '61.   (MIRA 15:1)

1. Tomskiy inzhenerno-stroitel'nyy institut, kafedra khimii i stroitel'nykh materialov.
                (Sand-lime products) (Sodium flouride)

YEL'TSOVA, P.A.; KOTON, M.M.; MINEYEVA, O.K.; SURNINA, O.K.

Polymerization of vinyl derivatives of biphenyl, diphenyl ether and phenyl sulfide. Vysokom. soed. 1 no.9:1369-1373 S '59.
(MIRA 13:3)

(Biphenyl) (Phenyl ether) (Phenyl sulfide)

5.3400

AUTHORS: Yel'tsova, P. A., Koton, M. M., Mineyeva, O. K.,
             Sumina, O. K.

TITLE: Synthesis of Vinyl Derivatives of Biphenyl, Biphenyl
             Ether and Biphenyl Sulfide

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 933-
             934 (USSR)

ABSTRACT: The effect of substituents phenyl, phenoxy, and phenyl-
             mercapto) on the capacity of compounds to underdo
             polymerization, and on properties of resulting polymers
             was studied. Addition of ethylene oxide to biphenyl and
             diphenyl ether in the presence of anhydrous aluminum
             chloride, with subsequent dehydrogenation of obtained
             carbinols, yields o-vinylbiphenyl (yield 47%), bp 112-
             113° (0.5 mm), n_D^{20} 1.6190; p-vinylbiphenyl, bp 124-126°
             (2 mm), mp 118-119°; o-vinyldiphenyl ether (yield 70%),
             mp 38-39°; p-vinyldiphenyl ether, bp 106° (1 mm), n_D^{20}.

Card 1/2

Synthesis of Vinyl Derivatives of
Biphenyl, Biphenyl Ether and
Biphenyl Sulfide

78284
SOV/79-30-3-38/69

1.6014; p-vinyldiphenyl sulfide (yield 56%), bp 137° (1 mm), n_D^{20} 1.6495. There are 8 references, 5 U.S. 2 French, 1 German. The U.S. references are: Frank, R., Adams, C., J. Am. Chem. Soc., 68, 1365 (1946); Chem. Abst., 47, 7826 (1953); Bradsher, Ch., Wert, R., J. Am. Chem. Soc., 62, 2806 (1940); Huber, F., Renoll, M., Possow, A., Mowry, D., J. Am. Chem. Soc., 68, 1109 (1946); Mowry, D., Renoll, M., Huber, F., J. Am. Chem. Soc., 68, 1105 (1946).

SUBMITTED: April 28, 1959

Card 2/2

SHISHKIN, K.N.; KOTSYUBA, A.A.; YEL'TSOVA, T.P.

Vapor - liquid equilibrium in four-component mixtures. Ukr.
khim.zhur. 30 no.2:137-143 '64.   (MIRA 17:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.

MARGOLIS, L.D.; YEL'TSOVA, Z.V.; ZHEREBNOY, I.A.

Sodium content in aluminum. TSvet. met. 37 no.6:42-43 Je '64.
(MIRA 17:9)

AUTHORS: Yeltysheva, A.A., Kaynarskiy, I.S.   131-3-7/16

TITLE: On Processes Taking Place During the Heating of Dinas Brick Clay
               and Their Connection With the Modification of Its Strength
               (O protsessakh pri nagrevanii dinasovogo syrtsa i ikh svyazi s
               izmeneniyem yego prochnosti)

PERIODICAL: Ogneupory, 1958, Vol 23, Nr 3, pp 118-131 (USSR)

ABSTRACT: The improvement of the quality of dinas depends upon the action
               brought to bear upon the physical-chemical processes during burn-
               ing. As raw material quartzite found at the Ovruch deposit was
               used for the experiment; its composition is given as also the
               preparation of the masses. The pressure breaking strength of dinas
               raw material in the heated state was measured on the apparatus of
               the VNIIO (fig. 1). Fig. 2 shows the influence exercised by granu-
               lar composition, pressure, the addition of dinas scrap instead of
               quartzite, and, for reasons of comparison, the raw material obtained
               from the mass of the plant imeni Dzerzhinskiy. Table 1 shows the in-
               fluence exercised by the composition and the amount of additions,
Card 1/4   and table 2 gives the characteristic of the production output of

On Processes Taking Place During the Heating of Dinas Brick
Clay   and Their Connection With the Modification of   131-3-7/16
Its Strength

the plant imeni Dzerzhinskiy. By means of an apparatus of the
VNIIO, which was developed by B.Ya. Pines, the bending-tensile
strength of dinas raw material was determined at different temper-
atures. Results may be seen from table 3. Table 4 shows the change
of shearing strength when the dinas raw material is heated. The
linear extension of the raw material by heating is shown by fig. 3,
viz. under the influence of granular composition and the addition
of dinas scrap instead of quartzite; extension in various tempera-
ture intervals is shown in table 5. The binding of calcium oxide by
siliceous earth by dry mixing of masses with following burning may
be seen from table 6, and by wet mixing from table 7. Losses caused
by burning off are shown in fig. 4. The change of the pressure
breaking strength of the raw material of veined quartz produced with-
out any additions by heating is shown in table 8. Thermograms of
mixtures of quartzite and $Ca(OH)_2$ both in the case of wet and dry
mixing of the masses, as well as of the quartzite found at the
Ovruch deposit and of $Ca(OH)_2$ may be seen from fig. 5. The depend-
ence of the decrease of the strength of raw material during the

Card 2/4

On Processes Taking Place During the Heating of Dinas Brick   131-3-7/16
Clay . and Their Connection With the Modification of
Its Strength

temperature interval of 800-1000° on the formation of cristobalite
may be seen from fig. 6, and dto. in the temperature interval of
1300-1400° from fig. 7.
Conclusions:
1.) By heating the pressure strength of dinas raw material changes
    as follows within 5 temperature intervals:
        Reduction of strength: 20 - 600°
        Considerable increase of strength: 600 - 800°
        Reduction of strength: 800 - 1000°
        A very sharp increase of strength: 1000 - 1300°
        Reduction of strength: 1300 - 1400°
2.) The change of the strength of the heated raw material is due
    to several physical and chemical processes.
3.) Different technological factors influence processes during the
    5 temperature intervals in different ways.

Card 3/4

On Processes Taking Place During the Heating of Dinas Brick   131-3-7/16
Clay   and Their Connection With the Modification of
Its Strength

        4.) As shown by experimental results, it is not of advantage to
          add dinas scrap, whereas high pressure and delayed burning
          in the interval $1300 - 1400^\circ$ is of advantage for the pro-
          duction of a solid dinas.
        There are 7 figures, 8 tables, and 23 references, 18 of which are
        Slavic.

ASSOCIATION: Khar'kov Institute for Refractories (Khar'kovskiy institut
               ogneuporov)

AVAILABLE: Library of Congress

Card 4/4   1. Refractory materials-Processing   2. Refractory materials-Properties-
            Tables

YELTYSHEV, A. A., Cand Tech Sci -- (diss) "Processes involved in the firing of Dinas brick-clay and their relation to changes in the brick-clay strength." Sverdlovsk, 1960. 21 pp with graphs; (Ministry of Higher and Secondary Specialist Education RSFSR, Ural'skiy Polytechnic Inst im S. M. Kirov); 150 copies; price not given; (KL, 17-60, 153)

SOURCE: Liternaye proizvodstva, no. 6, 1965, 29 40

... ... serve for ... ...

TSEYTLIN, L.A.; KARYAKIN, L.I.; YELTYSHEVA, A.A.

Studying the wear of linings of copper smelting induction furnaces.
Ogneuproy 25 no. 3:123-126 '60. (MIRA 13:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuprov.
(Metallurgical furnaces)

KAYNARSKIY, I.S.; DEGTYAREVA, E.V.; YELTYSHEVA, A.A.

Unfired dinas bricks. Ogneupory 28 no.7:303-305 '63.
(MIRA 16:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

YELTYSHEVA, Raisa Semenovna; SOKOLOVSKAYA, Ye.Ya,, red.izd-va; GUROVA,
O.A., tekhn.red.

[Ordovician and Silurian crinoids of the Siberian Platform]
Ordovikskie i siluriiskie krinoidei Sibirskoi platformy. Moskva,
Gos. nauch.-tekhn.izd-vo lit-ry po geologii i okhrane nedr,
1960. 38 p. (Leningrad. Vsesoiuznyi geologicheskii institut.
Trudy, vol. 40)   '(MIRA 14:2)
          (Siberian Platform--Crinoidea, Fossil)

YELTYSHEVA, R.S.; SHEVCHENKO, T.V.

Stalks of sea lilies from the Carboniferous deposits of Tien Shan
and Darvaza. Izv. Otd. geol.-khim. i tekh. nauk AN Tadzh.SSR 1:
119-125 '60.   (MIRA 15:1)

1. Upravleniye geologii i okhrany nedr pri Sovete Ministrov
Tadzhikskoy SSR.
          (Tien Shan--Sea lilies) (Darvaza Range--Sea lilies)

S/131/60/000/007/008/009/XX
B021/B058

AUTHORS: Tsigler, V. D., Yeltyshova, A. A., and Pindrik, B. Ya.

TITLE: Highly Aluminous Light Products and Their Use

PERIODICAL: Ogneupory, 1960, No. 7, pp. 299-307

TEXT: The technology for these products was worked out by the foam method
under laboratory conditions in the UNIIO (Ukrainskiy nauchno-
issledovatel'skiy institut ogneuporov - Ukrainian Scientific Research
Institute of Refractory Materials). A test batch of highly aluminous
light products was manufactured under operating conditions at the
Podol'skiy zavod ogneupornykh izdeliy (Podol'sk Plant of Refractory
Materials) from commercial alumina, refractory clay and wood dust. In this
paper, the results of the technology elaborated are mentioned, as well as
of the properties and working tests of highly aluminous light products
which show a corundum-mullite composition and were obtained by the method
of the fire loss of additions by pressing in semidry condition. The
refractoriness, chemical composition and granulation of the components
of the charge are mentioned, as well as the ceramic properties of light

Card 1/3

Highly Aluminous Light Products
and Their Use

S/131/60/000/007/008/009/XX
B021/B058

products after firing at 1550°C. Figs. 1-4 show the losses in weight,
change of weight of unit volume, thermal expansion, and compressive
strength of highly aluminous blanks. A batch of these light products was
manufactured at the experimental plant of the UNIIO, their granulation,
charge composition and characteristics of the mass being mentioned. The
investigation results for the fired light products can be seen from
Table 5. An industrial experimental batch of 5 t of highly aluminous light
products was manufactured at the Chasov-Yarskiy kombinat ogneupornykh
izdeliy (Chasov-Yar Kombinat of Refractory Materials). The characteristics
of the initial raw materials are mentioned in Table 6. The products were
sorted according to ГOCT 5040-58 (GOST 5040-58). Table 7 shows the
characteristics of highly aluminous light products. These were tried out
as lining for the fireboxes of the stand-by boilers in tankers of the
Chernomorskoye parokhodstvo (Black Sea Shipping Company). The following
persons participated: I. A. Parkhonyuk, A. S. Cherkasov, A. A. Lapidus,
and M. N. Kalayda. Under equal conditions, highly aluminous light products
had about three times the service life of brickings from semiacid bricks.
These products can be used as lining up to 1550°C. There is a prospect of
using these light products in stand-by boilers of seagoing vessels with

Card 2/3

Highly Aluminous Light Products
and Their Use

S/131/60/000/007/008/009/XX
B021/B058

oil firing. For the supply of the high-sea fleet it is necessary to
organize the manufacture of these light products in refractory-material
plants in the south and east of the country. There are 4 figures, 7 tables,
and 11 references: 6 Soviet, 1 German, 1 Canadian, and 2 British.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov
               (Ukrainian Scientific Research Institute of Refractory
               Materials)

Card 3/3

TEITLIN, L.A. [Tseytlin, L.A.]; ELTISEVA, A.A. [Yeltysheva, A.A.]; GRAFAS,
    N.I.; TIGANOV, A.S. [TSyganov, A.C.]; SAFARENKO, D.I.;
    SAGALOVA, B.I. [Shagalova, B.I.]

Crucibles of the electric induction furnaces made of a given
filling material for the melting of aluminum alloys. Analele
metalurgie 16 no.4:75-80 O-D '62.

TSEYTLIN, L.A.; YELTYSHEVA, A.A.; GRAFAS, N.I.; TSYGANOV, A.S.; SHAFARENKO, D.I.; SHAGALOVA, B.Yu.

Induction furnace crucibles made of rammed materials, for the smelting of aluminum alloys. TSvet. met. 35 no.5:71-75 My '62.   (MIRA 16:5)

    (Aluminum alloys—Electrometallurgy) (Crucibles)

TSIGLER, V.D.; YELTYSHEVA, A.A.; PINDRIK, B.Ye.

Technology, properties, and use of high-alumina lightweight
refractories. Sbor.nauch.trud. UNIIO no.5:113-136 '61.

(MIRA 15:12)

(Refractory materials)

S/893/61/000/005/002/005
B117/B186

AUTHORS: Tsigler, V. D., Yeltysheva, A. A., Pindrik, B. Ye.

TITLE: Technology, properties, and application of high-alumina light-weight refractories

SOURCE: Kharkov. Ukrayins'kyi naukovodoslidchyi instytut vohnetryviv. Sbornik nauchnykh trudov. no. 5(52), 1961, 113-136

TEXT: The development of an efficient production technology for high-alumina light-weight refractories was directed to obtaining products of the carborundum-mullite composition containing at least 80% Al_2O_3, having a porosity of 57% and a volume weight of 1.5 g/cm^2. The following raw materials were used: high-alumina fireclay, commercial alumina with different degrees of dispersion; kaolin from Vladimir as binding clay; petroleum coke with an ash content of about 3% as combustible addition. The composition of the masses was chosen on the basis of the Al_2O_3 content calculated in corresponding 3-component systems: high-alumina fireclays - kaolin - petroleum coke and commercial alumina - kaolin -

Card 1/3

S/893/61/000/005/002/005
B117/B186

petroleum coke. It has been shown that to a mass with an 80% Al_2O_3
content not more than 10 to 20% kaolin can be added. The bulk·weight of
the products of 1.5 g/cm^2 is guaranteed by the addition of 30% of
petroleum coke. The products produced by the method described above
offer good heat insulating properties, their thermal conductivity
depending in some degree on the production method. They can be used as
linings for working temperatures up to 1600°C, i.e. they are capable of
sustaining temperatures some 200° higher than alumosilicate light-weight
refractories of the types AЛ-1.3 (AL-1.3) and KЛ-1.3(KL-1.3). The
production of trial batches under varying conditions showed that the
production technology based on high-alumina fireclays is preferable to
that based on commercial alumina. The higher production costs of the
fireclay production are compensated by the high quality of the products.
The products produced on the basis of high-alumina fireclays are
characterized by a higher thermal stability, impermeability to gases and
smaller additional shrinking at 1600°C. It has been shown that the
high-alumina light-weight refractories can be well used as linings for
liquid-fuel auxiliary boilers on ships. They might also be used as

Card 2/3

Technology, properties, and application ...   S/893/61/000/005/002/005
                                                B117/B186

linings for main boilers. The production of high-alumina light-weight
refractories should be intensified in refractory plants in the South and
the East of the USSR in order to meet the demands of the naval fleet.
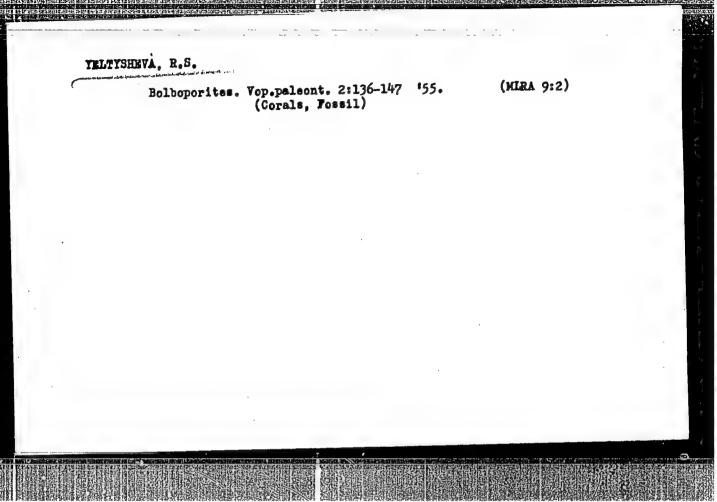There are 14 figures and 15 tables.

Card 3/3

Yeltysheva, R.S.

BELYAKOV,N.A. [deceased]; BUL'VANKER,E.Z.; DUBATOLOV,V.N.; YELTYSHEVA,R.S.;
KRISHTOFOVICH,A.N.,[deceased]; MAKSIMOVA,Z.A.; MODZALEVSKAYA,Ye.A.;
MELESHCHENKO,V.S.; NEKHOROSHEV,V.P.; NALIVKIN,B.V.; NOVOZHILOV,N.I.;
OBRUCHEV,D.V.; RZHONSNITSKAYA,M.A.; YANOV,E.N.; SPIRINA,N.I.,redaktor;
GUROVA, O.A., tekhnicheskiy redaktor

[Field atlas of characteristic complexes of fauna and flora of Devonian
deposits of the Minusinsk Basin] Polevoi atlas kharakternykh kompleksov
fauny i flory devonskikh otlozhenii Minusinskoi kotloviny, Sost. N.A.
Beliakov, i dr. Pod red. M.A.Rzhonsnitskoi i V.S.Meleshchenko, Moskva,
Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1955. 139 p.
(MIRA 9:1)

1. Leningrad. Vsesoyuznyy geologicheskiy institut.
        (Minusinsk Basin--Geology, Stratigraphic--Devonian)

YELTYSHEVA, R.S.

Bolboporites. Vop.paleont. 2:136-147 '55.   (MIRA 9:2)
(Corals, Fossil)

Yel Tysheva, R.S.

YELTYSHEVA, R.S.

Classification of stems of sea lilies. Vest.Len.un.11 no.12:40-46 '56.
(Crinoidea, Fossil)   (MIRA 9:9)

YELTYSHEVA, R.S.

A new family of Paleozoic sea lilies. Ezhegod. Vses. paleont.
ob-va 16:218-235 '57.   (MIRA 11:4)
                        (Crinoidea, Fossil)

DUBATOLOVA, Yuliya Afanas'yevna; YELTYSHEVA,R.S., otv. red.;
SOKOLOV, B.S., otv. red.

[Devonian sea lilies of the Kuznetsk Basin] Morskie lilii
devona Kuzbassa. Moskva, Izd-vo "Nauka," 1964. 152 p.
(MIRA 17:5)

YELTYSHEVA, R.S.

Stems of the Ordovician crinoidea in the Baltic region.
Vop. paleont. 4:59-84 '64.   (MIRA 17:5)

27306
S/199/61/002/004/002/007
B112/B108

16.3500

AUTHOR: Yelubayev, S.

TITLE: A boundary value problem for a third-order hyperbolic equation

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 2, no. 4, 1961, 510 - 519

TEXT: The author seeks a solution $u(x,y)$ to the equation
$\partial^3 u/\partial x^3 - \partial^3 u/\partial y^2 \partial x = 0$ which - inclusive of its third derivatives - is
continuous in the interior of the triangle $A(0,0)$, $B(1,0)$, $C(1/2,-1/2)$ and
which satisfies the boundary conditions: $u(x,y)|_{AB} = \alpha(x)$, $u(x,y)|_{AC} - \beta(x)$,
$u(x,y)|_{DC} = \gamma(y)$.   D is the point $(1/2,0)$; α, β, γ - inclusive of their
third derivatives - are continuous functions. These functions satisfy the
relations: $\alpha(0) = \beta(0) - \beta(1/2) - \gamma(-1/2) - \alpha(1/2) - \gamma(0) = 0$.
The function

Card 1/2

A boundary value problem for a third-...

$$u(x, y) = \alpha(x-y) + \beta(-y) - \alpha(-2y) - \omega(x-y) + \omega(x+y) + \omega(-2y) -$$

$$- \sum_{i=1}^{\infty} \sum_{k=1}^{2^{i-1}} \left[\omega\left(\frac{2k-1+x-y}{2^i}\right) - \omega\left(\frac{2k-1-x+y}{2^i}\right)\right] +$$

$$+ \sum_{i=1}^{\infty} \sum_{k=1}^{2^{i-1}} \left[\omega\left(\frac{2k-1+x+y}{2^i}\right) - \omega\left(\frac{2k-1-x-y}{2^i}\right)\right] +$$

$$+ \sum_{i=1}^{\infty} \sum_{k=1}^{2^{i-1}} \left[\omega\left(\frac{2k-1-2y}{2^i}\right) - \omega\left(\frac{2k-1+2y}{2^i}\right)\right]. \qquad (36')$$

is the solution of this boundary value problem. The function $\omega(t)$ occurring therein stands for the expression $\alpha(t) - \alpha((1+t)/2) + \beta(-t/2) - \beta(t/2)$, where $0 \leqslant t \leqslant 1$.
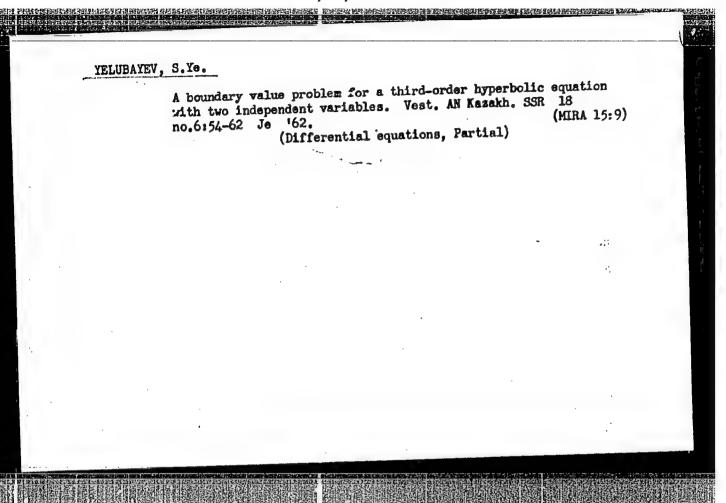
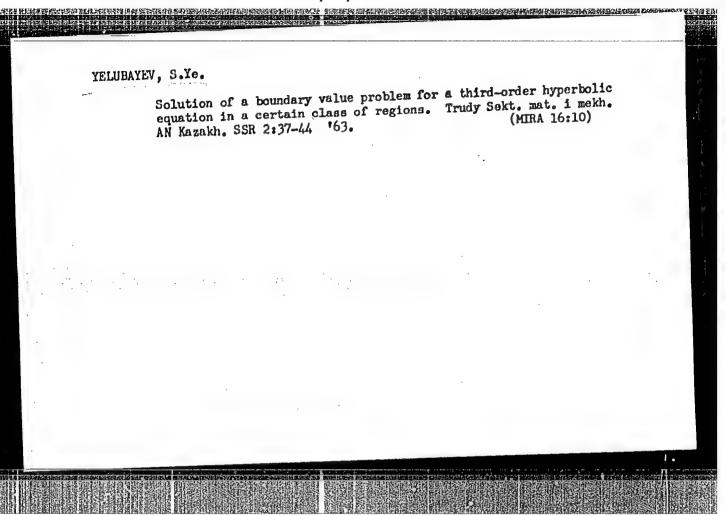SUBMITTED: March 9, 1960

Card 2/2

YELUBAYEV, S. Ye.

One method for Solving Electrodynamic Equations p 19

YELUBAYEV, S.Ye.

A boundary value problem for a third-order hyperbolic equation
with two independent variables. Vest. AN Kazakh. SSR 18
no.6:54-62 Je '62.   (MIRA 15:9)
            (Differential equations, Partial)

YELUBAYEV, S.Ye.

Solving a boundary value problem by the iterative method. Izv.
AN Kazakh. SSR. Ser. mat. i mekh. no.10:72-78 '62. (MIRA 15:9)
(Boundary value problems) (Differential equations)

YELUBAYEV, S.Ye.

Solution of a boundary value problem for a third-order hyperbolic equation in a certain class of regions. Trudy Sekt. mat. i mekh. AN Kazakh. SSR 2:37-44 '63.
(MIRA 16:10)

VISHNEV, I. P.; YELUCHIN, N. K.; MAZEYEV, B. B.

"Heat transfer to boiling liquids in pipes under vibrating conditions."

paper submitted for 2nd All-Union Conf on Heat and Mass Transfer, Minsk, 4-12 May 1964.

All-Union Sci Res Inst for Oxygen Apparatus, Moscow.

YELUCHINOVA, Yb.A.

Cultivation of Flexner bacilli in chick embryos.   Zhur. mikrobiol.
epid. i immun. 31 no.3:119-122 Mr '60.   (MIRA 14:6)

1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh i
biologicheskikh preparatov imeni Tarasevicha.
      (SHIGELLA PARADYSENTERIAE)
      (BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

14(1)   SOV/66-59-2-15/31

AUTHORS: Alekseyev, V., Yelufimov, N., Prikhodovskaya, A., Uzhanskiy, V.

TITLE: Partial Automation of Dry Ice Plants (Chastichnaya avtomatizatsiya
                zavodov sukhogo l'da)

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 2, pp 53-55 (USSR)

ABSTRACT: Partial automation has been introduced in 2 dry ice plants in the
                opytnyy kholodil'nik VNIKhI (Experimental Cold Storage Plant VNIKhI)
                and the Moskovskiy kholodil'nik Nr 10 (Moscow Cold Storage Plant Nr
                10), covering automatic regulation of gas; the system has been
                worked out by VNIKhI. The installation consists of a regulator of
                desorption pressure, a regulator of heating steam and a regulator of
                the level of the secondary condensate in the storage tank. The
                transducer of the pressure regulator of desorber, ChMP-6, is connected
                with the refrigerator of gas and transforms the changes in pressure
                into electric signals which are amplified in the electronic control
                device ER-III and actuate the servo mechanism PR-1. The pressure
                regulator has the transducer located on the boiler and the control
                device on the feed pipe. The level regulator of the secondary con-
                densate operates on a two-positional principle; the floating trans-
Card 1/2   ducer DU-4 has an induction transformer connected with the relaying

Partial Automation of Dry Ice Plants   SOV/66-59-2-15/31

        control device, which controls the solenoid valve on the line leading
to the absorber. The automation of the gas part of the installation
facilitates the work of the attendants and improves the control of
the technological process.
There are 1 circuit diagram and 1 photo.

Card 2/2

14(1)   SOV/66-59-3-18/31

AUTHORS: Pimenova, T., Yelufimov, N.

TITLE: The Problem of Foam Prevention in Monoethanol Amine Solution

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 3, p 64 (USSR)

ABSTRACT: In the dry ice shop of the experimental VNIKhI Refrigeration Plant, a
              "chemical foam extinguisher for locomotive boilers" has been used since
              May 1958 to prevent foam forming in monoethanol amine solutions. Since
              that time the technological process has been completely under control.
              The foam extinguisher is a white powder obtained from hexamethylene-
              diamine and contains high-molecular fatty acids.

Card 1/1

TEZIKOV, A.;YELUFIMOV, N.

Rotating jet sprayers of monoethanolamine solution. Khol.tekh.
37 no.2:53 My-Ap'60.   (MIRA 13:10)
                    (Ice industry--Equipment and supplies)

YELUFIMOV, V.F.

VASILEVICH, N.O. [deceased]; YELUFIMOV, V.F.; FIRSOVA, V.A.; LEBEDEVA, L.V.

Treatment of tuberculous meningitis [with summary in French]. Probl.
tub. 35 no.7:78-86 '57.   (MIRA 11:2)
         (TUBERCULOSIS, MENINGEAL, ther.)

ALEKSANDOVA, A.V.; YELUFIMOVA, V.F.

Diabetes insipidus in children following tuberculous meningitis.
Probl.tub. 37 no.8:53-57 '59.   (MIRA 13:6)

1. Iz detskoy kliniki (zav. - zasluzhennyy deyatel' nauki - prof.
M.P. Pokhitonova) i rentgenovskogo otdeleniya (zav. - prof. K.V.
Pomel'tsov) Instituta tuberkuleza AMN SSSR (dir. Z.A. Lebedeva,
zam. dir. po nauchnoy chasti - chlen-korrespondent AMN SSSR prof.
N.A. Shmelev).
            (TUBERCULOSIS MENINGEAL in inf. & child.)
            (DIABETES INSIPIDUS in inf. & child.)

YELUFIMOVA, V.F., mladshiy nauchnyy sotrudnik

Differential diagnosis of tuberculous meningitis and rheumatic meningoencephalitis. Probl. tub. 38 no.3:68-74 '60.

(MIRA 14:5)

1. Iz Instituta tuberkuleza AMN SSSR (dir. Z.A.Lebedeva).
(MENINGES--TUBERCULOSIS)   (ENCEPHALITIS)
(RHEUMATIC FEVER)

YELUFIMOVA, V. F., Cand Med Sci -- "Clinical forms of tuber-
cular meningitis in children, their outcome and remote re-
sults by the therapy with streptomycin, PAS /para-aminosalycic
acid/, and phthivazide." Mos, 1961. (Acad Med Sci USSR)

(KL, 8-61, 260)

- 461 -

YELUFIMOVA, V.F., kand. med. nauk

Successful ethionamide treatment of 2 children with unfavorable course of tuberculous meningitis. Probl. tub. 42 no.10:8C-81 '64.

(MIRA 18:11)

1. Detskaya klinika (zav.- prof. M.P. Pokhitonova) TSentral'nogo instituta tuberkuleza (direktor - deystvitel'nyy chlen AMN SSSR prof. N.A. Shmelev) Ministerstva zdravookhraneniya SSSR, Moskva.

YELUKHIN, N. I., and VISHNEV, I. P.

"On the Effect of Vapour Content on Heat Transfer at Boiling in Tubes."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

AKSELROD, L.S.; YELUKHIN, N.K.

Filling bodies for scrubbers.   Patent U.S.S.R. 77,944, Dec. 31, 1949.
(CA 47 no.19:9680 '53)

CA YELUKHIN, N.K.

23

**Methods of obtaining cold water in the sulfite-pulp indus-
try.** I. P. Usyukin and N. K. Elokhin. *Bumazh. Prom.*
26, No. 0, 6-12(1951).   The need for cool H_2O in the manuf.
of sulfite pulp is discussed in terms of cooking-acid prepn.
The operating characteristics, efficiencies, and economics of
3 types of refrigeration or cooling units, vapor-compression,
absorption (I), and steam-jet ejector (II), are considered in
some detail.   II is the most economical method for cooling
H_2O to 5-10° from moderate summer H_2O temps.   For cool-
ing H_2O below 5° or for summer H_2O temps. above 20°, I
is the most economical method.   As an integrated part of a
sulfite mill, II, operating in summer only, is recommended
on a basis of low capital and maintenance costs.
<div align="right">John Lake Keavs</div>

YELUKHIN, N.K.

67-58-3-3/18

AUTHORS: Ivanov, M.Ye., Candidate of Technical Sciences,
              Yelukhin, N.K., Candidate of Technical Sciences

TITLE: Heat Transfer During the Boiling of Oxygen and Nitrogen
              (Teplootdacha pri kipenii kisloroda i azota)

PERIODICAL: Kislorod, 1958, V.II, Nr 3, pp. 19-28 (USSR)

ABSTRACT: By way of introduction the scientific works by G.G.Haselden
              (Ref 1), Weil and Bromley (Ref 3) are referred to and criticized.
              It is said that the results obtained by these scientists do not
              agree with one another, and that too few data are available for
              the domains of low temperature stresses so that no conclusions can
              be drawn as to rules governing the process and the domains of high
              temperature stresses (critical stresses) as well as temperature
              pressure are said not to have been dealt with at all. To do so is
              the task to be performed here. The following experimental samples
              were used: a nickel silver tube of 4/3.5 mm and 8/7.5 mm diameter
              and 300 mm length which partly had a smooth surface and partly was
              roughened or was provided with a protecting emery paper coating;
              further, a copper tube of 4/3.6 mm and 10,9,6 mm diameter with a
              smooth, etched, or protected surface. Besides: bundles of nickel

Card 1/3

silver tubes of 8/7.7 mm diameter and 300 mm length were investigated. These bundles were placed into glass vessels, the bottoms of which had slots through which the liquid was introduced from below until it covered the upper ends of the tubes. Individual tubes or bundles were connected to the copper rods through which the current was transmitted. The experimental order is given in form of a schematic drawing (fig.1). In the chapter: Boiling in Individual Vertical Tubes the following subjects are dealt with: The dependence of the coefficient of heat transfer on the specific thermal effect during boiling and oxygen and nitrogen convection on the surface of the vertical tubes; the effects which cause transition of convection to boiling, and, lastly, the differences in heat transfer in the case of a smooth, roughened, and protected surface of the tube. Results concerning boiling were dealt with according to the criteria system developed by A.D. Rychkovskiy and A.N.Planovskiy (Ref 4). In the chapter: Boiling in the Vertical Bundles of Tubes and Inside the Long Vertical Tube the same moments of comparison as above were dealt with. The same is the case with respect to the oxygen convection in the metastable state; the dependence of the specific weight (of the mixture) on the specific thermal effect exercised during the boiling of the oxygen upon the vertical bundle of tubes and

Card 2/3

Heat Transfer During the Boiling of Oxygen and Nitrogen

67-18-3-3/18

determination of its specific weight; finally, the dependence of the coefficient of heat transfer on the specific effect of heat and the apparent level of the boiling oxygen inside the vertical tube is dealt with. In conclusion it is said that, in the course of these experiments and in the process of transition of the convection to boiling, a hysteresis was found to exist, which consisted in the fact that the occurrence of one or the other form of the process in the case of a given heat effect depends on the direction of approach to the latter. In the case of approach being made from the side of stronger action of heat, weak boiling was observed, and if approach was made from the side of weaker action, convection was found. Accordingly, different coefficients of heat transfer were found which differed by up to 500%. Herefrom it may be concluded that for the purpose of obtaining the most intense heat transfer possible in the apparatus, it is necessary to proceed from the direction of the greater intensity of the process. There are 10 figures, and 9 references, 5 of which are Soviet.

Card 3/3

1. Metals--Thermal stresses   2. Metals--Heat transfer
3. Nitrogen (Liquid)--Metallurgical effects   4. Oxygen
(Liquid)--Metallurgical effects

YELUKHIN, N.K.

PHASE I BOOK EXPLOITATION   SOV/3922

Usyukin, Ivan Petrovich, Ivan Grigor'yevich Aver'yanov, Vladimir Semenovich Gorokhov, Anatoliy Maksimovich Gorshkov, Aleksandr Vasil'yevich Zakharov, and Nikolay Kasparovich Yelukhin

Mashiny i apparaty ustanovok razdeleniya vozdukha metodom glubokogo okhlazhdeniya; atlas konstruktsiy (Machinery and Apparatus for Air Separation by Low-Temperature Refrigeration; Atlas of Designs) Moscow, Mashgiz, 1959. 189 p. Errata slip inserted. 5,000 copies printed.

Ed.: I.P. Usyukin, Doctor of Technical Sciences, Professor; Reviewers: I.K. Kondryakov, Candidate of Technical Sciences, and M.P. Malkov, Doctor of Technical Sciences, Professor; Eds.: P.M. Ionov, Engineer, B.N. Bol'shakov, and N.S. Kasperovich; Managing Ed. for Catalogs and Albums: K.A. Ponomareva, Engineer; Tech. Ed.: A.Ya. Tikhanov.

PURPOSE: This atlas is intended as a design manual for students of schools of higher technical education. and can be used by planning and design offices and scientific research institutes in the study of problems of low-temperature refrigeration and the use of oxygen as a means of raising industrial output.

Card 1/12

Machinery and Apparatus (Cont.)

SOV/3922

COVERAGE: The atlas contains basic designs of Soviet and non-Soviet plants for separating air by the low-temperature refrigeration method. Also included are types of expansion engines and turbines, pumps for liquid oxygen, basic types of heat exchangers and rectification equipment used in oxygen and nitrogen plants, containers for storage and transportation of liquid gases, and auxiliary apparatus for drying and cleaning air. The operation of typical accessories under low-temperature conditions is shown. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Card 2/12

11-3100
26.1160

S/124/62/000/004/019/030
D251/D301

AUTHORS: Yelukhin, N. K. and Ivanov, M. Ye.

TITLE: Heat-exchange with condensation and ebullition in conditions of profound cooling

TEXT: This is an experimental investigation of heat-exchange with condensation and ebullition of the basic components of the air. Using copper tubes of diameter 8/18 mm and height 2.4 m the condensation of oxygen was investigated on the outside of the tube and its ebullition within and using tubes of diameter 6/24 mm and height 200 mm – the condensation of oxygen, nitrogen and argon on the inner surface. In addition, an investigation was made of the ebullition of oxygen and nitrogen on the outside of vertical tubes and in the intertube space of a double pipe. Measurements are carried out in the ranges of heat-flow: $q = 300 - 23,000$ kcal/m^2 hour

Card 1/3

Heat-exchange with ...

(condensation of O_2, N_2 and argon), $q = 140 - 220{,}000$ kcal/m^2hour (ebullition of O_2 and N_2). In the results of the theoretical consideration and the elaboration of the data obtained the relationship was found for the heat-exchange with condensation:

$$N = 0.013 Ga^{0.413}$$

$$\alpha = 0.013 \frac{\lambda}{H} \left(\frac{gH^3}{\gamma^2} \right)^{0.413}$$

The working out of the experimental data for ebullition on the outer surfaces of tubes was presented in the criteria of Rychkov and Planovskiy (Khim. prom-st', 1955, no. 5, 31-34 – RZhMekh, 1956, no. 11, 7571). The results are described by the relation

Card 2/3

Heat-exchange with ...

S/124/62/000/004/019/030
D251/D301

$$E_S = 0.125 \left(\frac{p}{p_{cr}}\right)^{0.33} \left(\frac{q}{q_{cr}}\right)^{-0.3}$$

with scatter of the experimental values $\pm$ 10%. Characteristic pho-
tographs are presented for the ebullition process on vertical wires
with different thermal loads. The article mentions the singula-
rities of ebullition on double pipes with different spaces and the
effect of the purity and roughness of the surface. The latter is
calculated for tubes of pure and half-alloy copper and for cupro-
nickel tubes of length 300 mm and diameter 4 - 10 mm. The experi-
mentally obtained values of the critical load for the ebullition
of oxygen and nitrogen were presented: $O_2 - q_{cr} = 95,000$ kcal/m^2
hour, $\Delta t_{cr} = 8.8^o$; $N_2 - q_{cr} = 95,000$ kcal/m^2 hour, $\Delta t_{cr} = 7.0^o$.
$\angle$Abstracter's note: Complete translation.$\angle$

Card 3/3

IVANOV, M.Ye., kand. tekhn. nauk; YELUKHIN, N.K., kand. tekhn. nauk

Heat exchange during the condensation of oxygen, nitrogen, and argon.
Kislorod 12 no.1:5-12 '59.   (MIRA 12:6)
      (Gas--Liquefaction) (Heat--Transmission)

25(2)
AUTHORS: Yelukhin, N. K., Candidate of Technical   SOV/67-59-2-4/18
              Sciences,
              Ivanov, M. Ye., Candidate of Technical Sciences

TITLE: Calculation of Condenser-vaporizers of Air-fractionating
              Apparatus (Raschet kondensatorov-ispariteley vozdukhorazdelitel'nykh
              ustanovok)

PERIODICAL: Kislorod, 1959, Nr 2, pp 21-27 (USSR)

ABSTRACT: It is the aim of this work to select well founded parameters for
              the design of condenser-vaporizers based upon the results
              achieved in experimental investigation of the process of heat
              emission during the condensation of nitrogen and the boiling of
              oxygen and to develop with their help a method of calculation.
              For the calculations the necessary temperature-gradient has to
              be determined in a given condenser-vaporizer, or the specific
              thermal stress per $1m^2$ of exchange surface, i.e. the condenser-
              vaporizer surface necessary for the transfer of a given heat
              quantity. To make the calculation easier it is assumed that the
              condensing nitrogen as well as the boiling oxygen are highly
              concentrated so that it is possible to neglect the influence
              exercised by their changing composition on their physical

Card 1/3

Calculation of Condenser-vaporizers f Air-fractionating   SOV/67-59-2-4/18
Apparatus

properties and, consequently, also on the calculation. First the
temperature gradient between boiling liquid and condensing vapor
is calculated which is necessary in a given condenser-vaporizer
for the transfer of a given quantity of heat. For making the
calculation easier the latest data of publications are used for
computing graphically the values of the physical characteristics
of the condensate at various temperatures (Figs. 1-7). For the
computation it is necessary to know: the quantity of heat to be
exchanged Q [cal/hour]; the pressure on the boiling part of the
heat exchanger [ata]; the composition of the boiling liquid in %,
the dimensions of the tube, height H, outer and inner diameter m,
and the pitch of the tube. For computing the temperature-gradient
the specific temperature stress q in the boiling and in the
condensing part of the tube has first to be determined and can
be computed by the formulas: $q_{cond} = Q/F_{cond} = q_{boil} \cdot d_{boil}/d_{cond}$

and: $q_{boil} = Q/F_{boil} = Q/\pi d_{boil} H_n$.

The exact process of the computation is then given. Furthermore,
the necessary heat exchange surface is determined. For these

Card 2/3

Calculation of Condenser-vaporizers of Air-fractionating   SOV/67-59-2-4/18
Apparatus

computations it is necessary to know: 1) The total temperature-gradient of condensation-boiling in the upper part of the tube corresponding to the pressures and concentrations of nitrogen, oxygen, and argon in the lower and the upper part of the columns; 2) the dimensions of the tube. From the computations it results that the necessary surface of the condenser-vaporizer in the boiling part is determined by means of the specific thermal stress. $F_{boil} = Q/q_{boil} (m^2)$. A numerical example for the computation of F_{boil} is given. There are 8 figures and 6 Soviet references.

Card 3/3

24 (8)

AUTHORS: Valukhin, N. K., Candidate of Technical   SOV/67-59-4-2/19
Sciences, Vishnev, I. P., Engineer

TITLE: Heat Exchange in the Boiling of Oxygen in Tubes

PERIODICAL: Kislorod, 1959, Nr 4, pp 5-15 (USSR)

ABSTRACT: For the purpose of a rational construction of air-fractionation
plants it was necessary to investigate carefully the processes
taking place with liquid oxygen boiling in vaporization tubes.
Experiments were made with copper tubes, as are used in large
technical plants, at atmospheric pressure and natural
circulation. Heat supply q was in the range between 100 and
50000 kcal/m^2 per hour. The steam content in the tubes was
varied from 0 to 99% and more, and so were the apparent levels h
(h is H/l, H denoting the immersion depth of tube into liquid, and
l the tube length), and the ratio l/d of the tube (d denoting
the inner tube diameter). Investigations proved that, when
boiling oxygen in vertical tubes, heat exchange is strongly
influenced both by ratio l/d (assuming l/d > 80) and by H/l.
Observation of the boiling process itself showed that heat
exchange occurs most favorably when the stage of steam bubble
formation in the liquid is surpassed, and there is a

Card 1/2

Heat Exchange in the Boiling of Oxygen in Tubes   SOV/67-59-4-2/19

continuous steam flow along the tube. In this case, there is but an extremely thin liquid layer left on the tube walls, which is swept on into fast motion by the steam. Such a propagation of the liquid surface is the best condition for rapid vaporization. It was recognized that all of the factors exerting an influence on the heat exchange are clearly defined by the velocity of the steam exit from the tube. Interpretation of experimental results obtained further led to a quantitative description of the heat transfer when boiling liquids in tubes, under natural circulation. Three equations were set up for the calculation of the heat transfer in the process described. There are 14 figures, 1 table, and 13 references, 10 of which are Soviet.

Card 2/2

35753
S/124/62/000/003/031/052
D237/D302

26.5400

AUTHORS: Vishnev, I.P., and Yelukhin, N.K.

TITLE: Heat transfer on the boiling of liquefied gases in tubes using dimensionless coordinates

TEXT: Investigation of the process of boiling of oxygen freely circulating under atmospheric pressure in a vertical tube, experimental apparatus and method are described. The mechanism of boiling and the motion of the fluid-vapor mixture in the tube, are described in detail. An empirical equation for the heat transfer coefficient is given in a dimensionless form. 12 references. [Abstractor's note: Complete translation].

Card 1/1

24.5200

AUTHORS: Vishnev, I. P., Yelukhin, N. K.

TITLE: The Problem of Heat Exchange in the Boiling of Liquids in Tubes

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 5, pp. 74 - 80

TEXT: In the present paper, the boiling of oxygen, nitrogen, and a mixture of both in perpendicularly arranged tubes in the case of natural circulation and under atmospheric pressure is investigated. In these experiments, the total tube surface on which heat exchange occurred was moistened with the liquid. The experiments were carried out under "optimum" conditions, i.e., during boiling along the entire tube as well as in the case of such modes of operation in which the zone of preheating exerted influence. It was found that the exponent in the empirical formula $\alpha_k = A q^n$ varies from 0.16 to 0.64 in the boiling of oxygen in tubes with natural liquid-circulation. On the basis of the experiments

Card 1/4

82591

The Problem of Heat Exchange in the Boiling   S/170/60/003/005/007/017
of Liquids in Tubes   B012/B056

of heat exchange in the boiling of oxygen in tubes of $1/d$ = 106 to 560,
which were carried out here in the case of thermal stresses of 100 to
50,000 $kcal/m^2 \cdot hr$, h = 0.9, and at atmospheric pressure, formula (1) is
recommended for the heat exchange coefficient α_k. q = specific thermal
stress, l = tube length, d = tube diameter, h = H/l, H = liquid level.
Experimental data obtained by Rachko, Kutateladze, Vishnev, Tananayko,
Danilova and Mazyukevich, Rabinson and Katts, Ratiani, Ivanov, Korneyev,
Minchenko, Borishanskiy, Mak-Adams, Nukiyam, and Kichelli are given in
Fig. 2. These data are in agreement with the straight line shown in the
same figure and calculated from formula (1). It is pointed out that
formula (1), in comparison to the empirical formula $\alpha_k = Aq^n$, offers an

advantage in-so-far as in the latter the coefficient A varies consider-
ably for different liquids and mixtures, and as, besides, this empirical
formula does not reproduce the influence exerted by the geometric dimen-
sions of the surface during boiling in tubes. For this reason, the out-
put of heat in the boiling of a liquid can be calculated from the for-
mulas derived for a large volume only in the case of tubes with $1/d \leqslant 80$

Card 2/4

82591

The Problem of Heat Exchange in the Boiling   S/170/60/003/005/007/017
of Liquids in Tubes   B012/B056

(at $h > 0.7$). In the case of boiling in tubes of $l/d > 80$, the influence
exerted by the tube dimensions must be taken into account. On the basis
of the experimental results given here, and in consideration of the model
test method suggested by Professor A. A. Gukhman, formula (2) is re-
commended. It expresses the heat exchange in the boiling of a liquid in
tubes in the case of natural circulation. The experimental data given
here further show that as a determining quantity in the boiling of a
liquid in tubes, not the rate of vapor development, but the flow rate
of the vapors may be taken. In that case, $Re^* l/d$ in formula (2) may be
replaced by $Re^{**} = Re^* l/d$. It is pointed out that the introduction of
the numbers Re^{**} and h makes it possible to characterize the influence
exerted by the hydrodynamics of the system more completely. Both numbers
together take account of the change in the molar and molecular heat
transfers in boiling which is due to the change in the rate and thickness
of the underlying laminar layer. Fig. 3 shows the evaluation of experi-
mental data on the boiling of oxygen. Formula (6) obtained from these
results is written down. Professor A. A. Gukhman displayed interest in
the present investigation. There are 3 figures, 1 table, and 7 references:
6 Soviet and 1 German.

Card 3/4